Final Draft

The Boeing Company – Santa Susana Field Laboratory

Standard Operating Procedures: Building Demolition Debris Characterization and Management

February 24, 2010

1.0 Scope and Background

As Boeing buildings and structures are determined to be obsolete, they are considered for demolition. Removal of these features provides the unique opportunity to inspect, screen, and or sample the soil directly beneath the facilities. Information from these activities will be incorporated as appropriate into the SSFL Site RFI Reports.

The site building demolition project will involve:

- Completion of the planned RFI soil investigation and/or monitoring of near-surface soil conditions in previously inaccessible areas beneath site facilities or in areas where a comprehensive and complete inspection would be facilitated by the building demolition.
- Monitoring of exposed soil conditions for potential undiscovered vadose zone impacts as building floor slabs, spread footings, and surface pavement are removed.
- Identification and characterization of potential additional impacts.
- Management of demolition materials in a manner compliant with Title 22 of the California Code of Regulations and with Ventura County recycling guidelines.

All demolition activities are being performed utilizing qualified, OSHA HAZWOPER trained contractor personnel in a safe manner. In addition, Boeing personnel conduct an evaluation of the potential hazards that may be encountered, such as potential exposure to contaminants that have been identified throughout the site during the RFI process and the presence of subsurface features by checking facility utility maps and conducting geophysical surveys, as needed.

As described in this SOP, Boeing is careful to identify potentially hazardous materials, such as asbestos and lead-based paint, and conduct abatement as appropriate prior to demolition. Buildings are also screened for radioactivity prior to demolition.

It is important to understand that Boeing is targeting removal of man-made structures associated with their former site operations. This program is not intended to include any soil removal action that might otherwise be considered site remediation.

The Department of Toxic Substances Control (DTSC) will be informed of demolition activities 30 days in advance of physical demolition start-up. A formal, written notification of planned building demolition will be submitted. It will include:

a) A work proposal package with maps, figures, a description of buildings and extent of removals, and the locations/results of pertinent waste characterization samples.

b) A signed statement based on review of historical documentation certifying, to the best of knowledge and belief, the radiological-related activities, if any, conducted in any structure of the demolition.

c) An assessment of potential impacts the proposed activities may have on active RCRA Facility Investigation and remediation efforts, on permanent groundwater monitoring, or on remediation systems.

DTSC personnel are encouraged to visit the site to perform inspections and discuss the demolition schedule and our waste characterization approach.

A Post demolition summary report will be provided to the DTSC following the completion of an area demolition. This report will include post-demolition maps, field reports, screening and sample results, chemical release identification findings, photographic documentation, and complete copies of the debris/waste recycling and removals. In addition, information gathered during demolition activities will be incorporated into the final RFI Reports for the SSFL Site.

2.0. Objectives of Demolition Waste Characterization and Management

This procedure governs waste characterization and the management of wastes generated during building demolition. These activities will be conducted within the framework established by Local, State, and Federal regulations and overseen by DTSC and the Ventura County Environmental Health Division, Certified Unified Program Agency (CUPA), to whom DTSC has delegated responsibility for the hazardous waste generator program. Toward this end, the objectives of this procedure are to assure:

2.1. All wastes generated during demolition projects are accurately characterized as non-hazardous or hazardous wastes in accordance with EPA SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods;" Boeing SSFL Instruction SM-40 202, "Waste Analysis Plan;" Title 40 of the Code of Federal Regulations; Title 22 of the California Code of Regulations; and Chapter 6.5 of Division 20 of the California Health and Safety Code.

2..2. Hazardous and non-hazardous wastes are managed in accordance with Titles 40 and 49 of the Code of Federal Regulations, Chapter 6.5 of Division 20 of the California Health and Safety Code, Title 22 of the California Code of Regulations, applicable Ventura County ordinances, and Boeing Procedure C-203, "Hazardous Waste Management Program."

2.3. Management of wastes is carried out in consideration of the surrounding ecology, neighbors, and the public at large.

2.4. Compliance is maintained with all Boeing procedures, and with all Local, State, and Federal regulations that apply to the types of activities and materials involved in waste characterization and management, including:

a) Health and Safety procedures and regulations

b) Building and Safety codes and ordinances

c) Fire codes and regulations

d) Divestment procedures

e) Other procedures, regulations, and codes as applicable

2.5 Recycling of demolition materials, rather than landfill waste disposal, is employed to the extent possible and practical in accordance with the intent and the requirements of Ventura County's 60% landfill diversion Ordinance 4357. In a broader context, DTSC's Green Remediation Initiative is also considered as work progresses in returning SSFL to a more natural state.

3.0. Pre-Demolition Documentation Review

During the planning phase of each demolition project, wastes that are expected to be generated will be identified and evaluated. The following activities will be performed as applicable:

3.1. Historical information pertaining to activities, processes, and chemical and material use at the planned demolition project site will be obtained to the extent possible and reviewed to identify potential wastes and constituents of concern.

3.1.1. The review will focus on potential chemical/material residues and/or contamination that may be present on facility structural elements, floors, concrete/asphalt pavement and pads, ceilings, and equipment.

3.1.2. An attempt will be made to determine the nature and extent of any chemical leaks and other releases.

3.2. Applicable analytical data that may be available from storm water discharge monitoring, groundwater monitoring, facility investigations, site surveys, past demolition projects, and remediation activities will be reviewed to identify potential demolition material impacts.

3.3. Facility drawings, maps, logs, photographs, etc. will be reviewed to identify tanks and pressure vessels with potential residual material.

4.0. Pre-Demolition Inspections

During the planning phase, physical inspections of demolition project sites will be conducted as needed to identify potential wastes and factors that may affect how those wastes are characterized. The results of the inspections will be used to develop waste management strategies that assure wastes are addressed in compliance with requirements and are handled as safely and efficiently as possible.

4.1. Inspections will be carried out by the SSFL Demolition Team, sub-groups of the Demolition Team, SSFL site personnel tasked with specific waste management or health/safety responsibilities, and/or licensed contractors as required.

4.1.1. Examples of the types of inspections that may be performed depending upon the particular demolition site features include:

a) Asbestos and lead-based paint surveys

b) Tank, pressure vessel, and equipment/infrastructure surveys

c) General site safety and issues surveys (including equipment and infrastructure with potentially hazardous materials)

d) Concrete assessment surveys

e) Energetics surveys

g) Underground features surveys

h) Electronic waste surveys

i) Coolant, hydraulic oil, refrigerant, and other fluid surveys

4.2. Waste management strategies based on the outcomes of inspections that have been performed will be incorporated into the overall demolition project plan. If specific, non-routine features of concern are identified at the demolition project site, additional inspections may be conducted before a management strategy is developed.

4.3 Radiological surveys of structures proposed for demolition will be performed and all data from these surveys will be provided to DTSC for forwarding to DPH.

4.4 Special investigation and removal methods will be used to locate undocumented below grade, shallow depth man-made features for removal. Such features include storage tanks and buried liquid containment features (septic tanks, sumps, drains).

4.4.1. A pre-demolition investigation will take place. This investigation will include (1) the use of non-invasive underground investigation locating, marking and mapping services (2) the use of archival information investigation, and (3) the use of site based knowledge.

4.4.2. Features found during pre-demolition investigation will be characterized and appropriately incorporated into the work plans per this Standard Operating Procedure (SOP).

4.4.3. In the event that an undocumented (i.e. not identified or discovered previously) underground storage tank (UST) or other liquid containment feature is discovered during actual demolition activities work, demolition work in the vicinity of the discovered

feature will cease immediately. Boeing will notify DTSC in writing (email or written) within 24 hours of the discovery. Boeing will also inform all other applicable agencies as required. The discovery will remain undisturbed until an appropriate investigation has been performed and an appropriate work plan is developed and shared with DTSC.

5.0. Pre-Demolition Planning

Demolition project requirements and activities, including those related to waste management, will be documented. Pre-demolition planning topics to be addressed typically include the following, as applicable:

5.1. Project Impact Evaluation Sheets are Boeing documents required for projects involving work performed by contractors. These documents describe the tasks involved in the project, anticipated hazards, expected waste generation, and the health, safety, and environmental protection requirements that must be implemented. These documents undergo review and sign-off by Boeing SSFL Environment, Health, and Safety management and delegated subject matter experts.

5.2. Demolition Action Plan/Demolition Project Checklists are comprehensive, detailed listings of tasks and sub-tasks, including those involved with waste management, that must be accomplished to complete the demolition project. These lists are maintained by the Demolition Project Leader and are updated at regular status meetings involving the demolition project team.

5.3 Dust control and dust protection measures are employed when the generation of dust resulting from demolition activities must be mitigated. The methods used to mitigate airborne dust include:

a) The use of water sprays for dampening work areas during demolition activities.

b) The use of water sprays for dampening un-mulched demolition areas during time periods when wind conditions creates dust as appropriate. If the forecast calls for windy evening conditions, water sprays will be used to dampen subject work areas just prior to the end of the work day.

c) The use of truck bed covers to contain dust in loads being transported offsite.

d) The use of Hyromulch or Hydroseed (using native plant seeding), silt fencing, erosion control wattles, burlap / straw / jute blankets and netting in post-demolition areas to aid in permanent dust mitigation.

5.4. Sediment runoff control and erosion control measures are imbedded throughout the demolition process.

5.4.1. Storm Water Pollution Prevention Plans (SWPPP) are developed for construction area's that are greater than one acre in size as required by the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction Activity (General Permit) Water Quality Order 99-08 DWQ. The SWPPP Notice of Intent (NOI) is filed with the State Water Quality Control Board.

5.4.2. SWPPP's include appropriate Best Management Practices (BMP's) to address sediment runoff. BMP measures may include, when required:

a) Erosion control fiber rolls (wattles) and silt fences that are maintained throughout demolition activities.

b) Constant evaluation of the post demolition landscape for sediment runoff.

c) Implementation and maintenance of final measures for long term control during site restoration. Hydroseed or Hydromulch is sprayed over the entire worksite to control storm water runoff and provide dust control, as it stimulates vegetation growth.

5.4.3. A Notice of Termination (NOT) for the SWPPP is submitted to the state water board once the area has regained 70% of its vegetation or when appropriate BMP measures as discussed have been implemented.

5.5. Tractor-trailer traffic control in and out of Santa Susana is controlled by Boeing. It is Boeing's policy to consider and cooperate with local homeowners adjacent to Company property and along the access road, Woolsey Canyon Road. The requirements described in this section have been established for this purpose.

5.5.1. The interval between incoming Tractor-Trailer arrivals to Santa Susana is coordinated. Permit loads shall be coordinated with the assigned Boeing Field Coordinator 48-hours in advance of arrival. Drivers will leave sufficient space between vehicles to permit homeowners to enter or leave their properties.

5.5.2. Drivers will use the turnouts along Woolsey Canyon Road to allow motorists to pass.

5.5.3. Drivers of tractor-trailers departing Santa Susana shall follow the direction of the Field Coordinator to ensure that transportation plan requirements are met. In general, drivers shall not depart earlier than 7:00 am and not later than 4:00 pm, without specific concurrence from Boeing.

5.5.4. Drivers shall cover all end dumps and roll off trucks containing debris (e.g. concrete, asphalt, metals) before leaving SSFL. Visual inspections of the surfaces of the tractor-trailers, including tires, will be performed. If caked mud/soil is observed, it will be removed prior to the vehicle departure.

5.5.5. Departures for tractor-trailers shall be scheduled in such a manner that a ten-minute gap occurs between each vehicle leaving the site (unless a specific instruction is given indicating another interval). To minimize noise impacts, drivers shall not use "Jake-brakes," unless it is necessary. Drivers shall use the area outside the gate to check their brakes as needed, but will not to wait for other drivers.

5.5.6. Drivers shall not convoy through, or spend the night in, the adjacent neighborhoods.

6.0. Demolition Preparation Activities

During pre-demolition planning, tasks are typically identified that must be performed on an as-required basis at the project site. These tasks are required before demolition itself begins and include:

6.1. <u>Tank and Pressure Vessel Draining, Purging, and Disposition</u>

6.1.1. The contents of tanks and pressure vessels located at demolition sites will be evacuated through depletion, transfer to other storage, or venting as applicable. With the exception

of those designated for continued use that may be damaged by atmospheric exposure, tanks and vessels will be left open to the atmosphere once the contents have been evacuated.

6.1.2. Tanks and vessels that will be transferred to other locations for continued use may be rinsed. Rinsate will be captured, characterized as described in this procedure, and transported to an appropriate disposal facility.

6.1.3. Tanks that have held hazardous materials or wastes, and which are designated for disposal or recycling as scrap metal, will only be rinsed or otherwise cleaned in compliance with Section 67383.3 in Title 22 of the California Code of Regulations.

6.1.4. Transportation of tanks and vessels off-site will be accomplished in compliance with Title 49 of the Code of Federal Regulations.

6.2. Removal of Potentially Hazardous Materials from Facility Lines and Equipment

6.2.1. Piping, tubing, compressors, pumps, hoists, and other equipment with refrigerants, oil or hydraulic fluid will be drained by a licensed contractor, if necessary, until no additional material can be removed. The contents will be captured, characterized as described in this procedure, and transported as appropriate to a disposal or recycling facility.

6.2.2. Lines and equipment that have held hazardous materials or hazardous wastes, and which are designated for disposal or recycling as scrap, will be managed as required by Title 22 of the California Code of Regulations, and will not be rinsed or otherwise cleaned beyond gravity draining, physical scraping, wiping, pigging, etc.

6.3. Removal of Equipment, Appliances, and Fixtures

6.3.1. At the outset of demolition projects, affected buildings and surrounding areas will be emptied of removable equipment and other non-fixed, unattached, or removable items that may present safety and/or waste management issues.

6.3.2. Lamps, ballasts, switches, mercury containing articles, and other items that are Universal Wastes or which may be otherwise hazardous will be removed, segregated and containerized as required, and transported to an appropriate recycling or disposal facility. Examples of these items include:

a) Fluorescent tubes and other lamps

b) Lamp ballasts/capacitors

c) Thermostats

d) Batteries

e) Fire alarms

f) Electronic switching equipment

g) Pressure measurement instruments

h) Other potentially regulated items

6.4. Loose Paint Abatement

6.4.1. Paint on buildings and equipment is assumed to be lead-based, unless evidence is available demonstrating otherwise.

6.4.2. Buildings and structures with areas of peeling or flaking paint large enough to impact demolition waste characterization will either undergo lead paint abatement or the subsequent demolition waste will be managed as hazardous waste.

6.4.3. When lead abatement is performed, the removed material will be collected, containerized and managed as hazardous waste.

6.4.4. If significant amounts of paint are dislodged during demolition activities, this, too, will be collected and managed as hazardous waste.

6.5. Asbestos Abatement

6.5.1. When non-friable or friable asbestos is detected during the asbestos survey, a licensed asbestos abatement contractor will be employed to remove the asbestos. This may include:

a) Floor tiles

b) Caulking and mastic

c) Pipe insulation

d) Counter tops

e) Building siding

f) Oven insulation

6.5.2 Management and disposal of each type of asbestos waste is carried out as required by regulations.

6.6. Removal of Potentially Hazardous Surface Deposits and Residues

6.6.1. During the pre-demolition surveys, trash and debris, deposits of potentially hazardous materials, and potentially hazardous residues of various kinds may be observed. These materials may be removed prior to demolition if the impact on waste characterization of the underlying material is significantly ameliorated, or the entire mass, including material and deposit/residue, will be characterized as whole to determine whether it is hazardous waste of not.

6.6.2. No sifting or invasive separation methods will occur in debris piles intermixed with soil, to ensure that soil conditions will not be disturbed without DTSC concurrence. Only visible debris or trash will be removed from piles.

6.6.3. Only physical/mechanical removal methods will be employed to remove deposits and residues. These methods may include:

a) HEPA vacuuming potentially hazardous materials that are finely divided.

b) Scraping and/or shoveling grease and other very viscous materials into containers.

c) Spreading absorbents over oil and other low viscosity materials and picking up spent material with a shovel or broom and dust pan. Absorbents may be physically worked into deposits, residues, and stains before it is picked up.

d) Wiping up low viscosity materials with rags, paper toweling, absorbent pads, etc.

e) Cutting out sections that may be contaminated with hazardous materials and managing the sections separately from the mother material as suspect hazardous waste.

6.6.4. Potentially hazardous deposits and residues will not be rinsed or washed from materials that are to become wastes.

7.0. Containment of Hazardous and Potentially Hazardous Wastes

All hazardous wastes will be accumulated in closed containers (including lined roll-off bins), tanks, or lined trucks/trailers that prevent the release of any material. Wastes that are hazardous or potentially hazardous will not be managed using practices such as stockpiling, where the wastes are accumulated outside of the lined and closed containers described above.

7.1. Hazardous wastes will be managed in accordance with Boeing Procedure C-203, Title 40 of the Code of Federal Regulations, Title 22 of the California Code of Regulations, and Chapter 6.5 of Division 20 of the California Health and Safety Code.

7.2 Whenever there is the possibility that wastes are hazardous, even if the hazardous nature of the wastes has not been verified, the wastes will be managed as though they are hazardous, until they are verified through analytical testing to be non-hazardous.

7.3 If it is necessary to combine compatible non-hazardous wastes with hazardous or unverified potentially hazardous wastes, the resulting mixture will be managed as hazardous waste regardless of the properties of the waste resulting from the mixture.

7.4 Segregation, waste compatibility, container labeling, accumulation times, and all other management requirements for hazardous wastes stated in Boeing procedures and State and Federal regulations identified above will be observed for all wastes as applicable.

7.5 Once roll-off bins containing hazardous wastes have been filled at the demolition site, they will be transported only to a staging area that has been designated for that purpose by the SSFL Environment, Health, and Safety Hazardous Waste unit.

7.6 In all cases, bins containing hazardous wastes will be transported for off-site disposal within the prescribed 90-day accumulation period.

7.7 Like all containers of hazardous wastes, roll-off bins will be kept securely closed, except when wastes are actually being transferred into or out of them.

7.8 Hazardous wastes that comply with the requirements for Satellite Accumulation Areas as stated in the Boeing procedures and State and Federal regulations identified above may be maintained at the demolition site.

8.0. Characterization of Wastes Generated During Demolition

Wastes generated by demolition activities will undergo characterization as described in Boeing SSFL Instruction SM-40 202. The average properties of wastes generated by demolition activities will be determined in accordance with EPA SW-846 and compared to applicable hazardous waste thresholds presented in Title 40 of the Code of Federal Regulations, Title 22 of the California Code of Regulations, and Chapter 6.5 of Division 20 of the California Health and Safety Code.

8.1. In-Situ Characterization of Demolition Wastes

8.1.1. Materials may be characterized before they become wastes, only when the boundaries of the area that will become waste are clearly identified, and when this will assist efforts to segregate non-hazardous from hazardous wastes or incompatible wastes during the demolition.

8.1.2. *In situ* characterization of intact materials that are subject to demolition will be based on definitive, documented generator process knowledge and/or a sampling plan that is developed in accordance with EPA SW-846 and provides State certified laboratory analytical results.

8.2. Characterization of Wastes in Containers

8.2.1. Demolition wastes that are contained in drums, cubic yard boxes, or roll-off bins will be characterized based on definitive, documented generator process knowledge and/or a sampling plan that is developed in accordance with EPA SW-846 and provides State certified laboratory analytical results.

8.2.2. If there is a possibility that the wastes in a container are hazardous, the container will be managed as hazardous waste until characterization results demonstrate the wastes are non-hazardous.

8.3. Characterization of Wastes in Trucks and/or Trailers

8.3.1. Wastes will be characterized before they are loaded into trucks and/or trailers for transport to off-site disposal facilities.

8.4. Generator Process Knowledge

Generator process knowledge, as prescribed in Section 66262.11(b)(2) and (c)(2) in Title 22 of the California Code of Regulations, is an important component of waste characterization. When a strong, documented generator knowledge base exists regarding a specific waste, this may constitute the entire basis for waste characterization. In other instances, generator process knowledge is employed in concert with waste sampling and analysis to determine whether the waste is hazardous or non-hazardous.

Certain types of uniformly characteristic demolition wastes at SSFL warrant characterization studies that apply to a larger population than a single demolition site. These studies yield results that may be generalized and may be used to supplement generator process knowledge with additional empirical data. Some examples of recent characterization studies include:

a) Stained and painted concrete floors and walls

b) Utility poles

c) Road base

d) Concrete transformer pads

8.4.1. Dependence upon sole-source, generator process knowledge in determining that wastes are non-hazardous will only take place when documented evidence is available that conclusively demonstrates the non-hazardous nature of the particular waste in question. Otherwise, generator process knowledge will be used together with multiple information sources and/or analytical data from waste samples (including analytical data from similar waste streams).

8.4.2. Generator process knowledge may be used in limiting the number of analytes that are included in laboratory analyses of samples collected from wastes.

8.4.3. Documentation supporting generator process knowledge may include:

a) Applicable analytical data that was obtained for other purposes such as RFI, remediation confirmation sampling, process monitoring, health and safety environmental monitoring, etc.

b) Chemical usage inventories applicable to a specific area.

c) Historical analytical data pertaining to specific waste types and the characteristics that are exhibited by the wastes.

d) Waste characterization studies that apply to the wastes in question.

8.5 Radiological Screening

8.5.1. As a precautionary measure, building structures, equipment, and materials, including road base, will undergo a pre-demolition radiation screening following the procedures outlined in Appendix A. These procedures are consistent with solid debris screening procedures used in the Northern Drainage Debris Removal program and at the Interim Source Removal Area (ISRA) program.

8.5.2. Assuming that the pre-demolition screening detects no contamination exceeding regulatory limits, no further screening of post-demolition debris will be performed.

8.5.3. If contamination is detected above regulatory limits, then DTSC shall be notified within 24 hours. Demolition will not commence or continue without DTSC concurrence.

8.5.4. A waste certification package shall be prepared and signed by a Boeing official that includes the survey results and certifies that the building debris/wastes can be disposed/recycled without further radiological controls.

9.0. Demolition Waste Recycling

In compliance with Boeing company policy and Ventura County's 60% landfill diversion Ordinance 4357, for construction/demolition debris, demolition wastes are recycled whenever possible and practical.

9.1. All demolition waste recycling is carried out in accordance with Chapter 6.5, Article 4 of Division 20 of the California Health and Safety Code and Chapters 11 and 16, Division 4.5 of Title 22 of the California Code of Regulations.

9.2. Metal Recycling

9.2.1. During demolition, recoverable metal will be segregated from other demolition wastes and transported to a metal recycling facility.

9.2.2. Tanks and pressure vessels will only be designated for recycling if they comply with the requirements of Section 67383.3 in Title 22 of the California Code of Requirements and they have been rendered non-functional.

9.3. Concrete and Asphalt Recycling

9.3.1. Only non-hazardous concrete and asphalt will be designated for recycling. In compliance with Ventura County's Ordinance 4357, concrete and asphalt are designated for recycling whenever the material conforms to regulatory requirements, standard industry practices, and guidelines published by governmental agencies and trade organizations. Consistent with Ordinance 4357, Construction and Demolition Recycling plans and Reports will be provided to the controlling authority.

9.3.2. Concrete that exhibits heavy staining or deposits, or that has a history suggesting significant exposure potential to chemical constituents of concern, including contact with soils in locations where significant environmental impacts have been detected, will be investigated to verify that it is non-hazardous before it is considered for recycling. This may occur in-situ, before demolition, or the section of concrete to be investigated further may be segregated and placed in a closed, lined container while characterization activities are in progress.

9.3.3. Concrete and asphalt waste that is determined to be non-hazardous may be transported off-site to a recycling facility or to a landfill that accepts Construction and Demolition (C&D) wastes.

9.3.4. Concrete and asphalt waste that is determined to be non-hazardous, but which has leachable constituents that may be detrimental to its use as a recycled product will be transported off-site to a landfill that accepts Construction and Demolition (C&D) wastes.

9.3.5. Concrete and asphalt waste that is determined to be hazardous, through analytical testing or through generator knowledge, will be managed as hazardous waste and transported off-site to a permitted facility.

9.4. Electronic and Electrical Waste Recycling

9.4.1. Electronic and electrical items are segregated prior to and during demolition, as access and handling considerations allow.

9.4.2. Potentially usable electronic devices may be separated from other electronic devices for processing by a reconditioning business.

9.4.3. Electronic devices will be managed in accordance with regulations presented in Division 4.5, Chapter 23 of Title 22 of the California Code of Regulations and will be transported to a recycler.

9.4.4. Recoverable wire will be collected when possible and practical and transported to a recycler.

9.4.5. Punchboards, cable harnesses, and other electrical wastes that are not attached to electronic devices and that are hazardous for lead content will be managed as hazardous wastes.

9.4.6. All oil-filled transformers will undergo verification for the presence of PCBs. Verification may consist of certification stamps, plates, or stickers on the transformer body. Verification may require oil sampling and laboratory analysis, if PCB certification is not present on the transformer.

9.4.6.1. Operational transformers may be saved or sold for reuse.

9.4.6.2. Discarded, non-Polychlorinated Biphenyl (PCB) transformers may be transported to a recycler.

9.4.6.3. Discarded transformers with above threshold concentrations of PCBs will be managed as hazardous waste in compliance with California hazardous waste regulations and Federal Toxic Substances Control Act regulations.

10.0. Demolition Waste Disposal Facilities

10.1. Non-hazardous non-liquid wastes that are not designated for recycling may be transported to Class 2 or Class 3 landfills for disposal. Boeing may also elect to transport non-hazardous wastes to Class 1 disposal facilities when this is deemed to be warranted.

10.2. Non-hazardous liquid wastes will be transported to a wastewater processor that accepts the type of waste designated for disposal.

10.3. Hazardous non-liquid wastes will be transported to appropriately permitted Treatment, Storage, and Disposal Facilities (TSDF). Class 1 landfill utilization will be based on the facility's capability to perform any treatment required by Land Disposal Restrictions prior to disposal.

10.4. Hazardous liquid wastes will be submitted to a permitted hazardous waste TSDF.

11.0. Waste Monitoring and Release Investigation During Demolition

Demolition is typically expected to progress to a point where the building cladding and frames have been removed, leaving only the floor slabs and the surrounding asphalt or concrete pavement. The floor slabs and pavement will then be broken and removed. Based on this approach to demolition, near-surface soils will be exposed almost exclusively during the removal of floor slabs, spread footings, and concrete or asphalt surface paving. During this phase of the demolition, a geologist or engineer, working under the direct supervision of a Professional Geologist or Professional Engineer, will be present to document subsurface conditions.

11.1. Once the soil has been exposed, it will be monitored for indications of potential environmental impacts. Indications of potential environmental impacts could include:

a) Stained or discolored soils

b) Wet or saturated soils

b) Odors in ambient air

c) Other previously unknown subsurface features, such as "wet" subsurface utilities, sumps, or other features that might be indicative of past chemical use

11.1.2. If an indication of a potential environmental impact is observed, the Boeing Demolition Coordinator will immediately alert the demolition contractor foreman and prime contractor.

11.1.3. Once alerted, the contractor will immediately stop work, and will be required to proceed with caution upon approval from Boeing. The contractor will proceed to remove broken concrete or asphalt so that the full extent of the potential impact is uncovered with minimal disturbance to the underlying soils.

11.1.4. Mixing potentially impacted soil with clean soil will be minimized.

11.2 If the indication is in the vicinity of a subsurface feature, such as a deep footing or utility, where significant soil disturbance cannot be avoided, the demolition contractor will be instructed to work around the area.

11.2.1. Work will not resume in the identified area until such time as the potential impact is confirmed, characterized, and evaluated in terms of its possible impact on human health and/or groundwater quality.

11.2.2. Concrete/asphalt or other removed groundcover will be managed in accordance with section 9.3,

11.3 Headspace Screening

Based on visual monitoring, near-surface grab soil samples might be collected at selected locations for headspace screening for VOCs using a calibrated photoionization detector (PID).

11.3.1 The specific location where soil samples are collected for headspace screening will be determined in the field based on professional judgment. Generally, if an area of impact to soil is visually observed, the headspace screening sample will be collected from the area that appears to be the most impacted. Also, headspace screening samples are targeted for the location directly beneath a suspect feature (e.g. sump or drain). The sampling collection point will be either where the impact appears greatest or where the release was most likely to have occurred. The PID readings, date, time, and location of soil samples collected for headspace screening will be logged on the daily field logs.

11.3.2 Soil samples for headspace screening will be collected from at least 6 inches below ground surface (bgs) to help assure they are representative of in-situ VOC conditions.

11.3.2.1. Approximately 6 ounces of soil will be sealed inside a 1-pint Ziploc®-type plastic freezer bag or 1-pint glass jars and agitated to promote the volatilization of VOCs, if any, into the head space.

11.3.2.2. After allowing 2 minutes for VOCs to volatilize and equilibrate, the PID probe will be inserted into the headspace and the peak and/or steady PID reading recorded.

11.3.2.3. To minimize variability, all of the PIDs used during the demolition sampling program will be calibrated on a daily basis using hexane (to be consistent with South Coast Air Quality Management District [SCAQMD] Rule 1166 requirements).

11.3.3 Based on its use as a decision-making criterion for SCAQMD Rule 1166, a headspace PID reading of 50 parts per million by volume (ppmv) will be considered indicative of a potential VOC or TPH impact. In practice, a 50 ppmv headspace reading is significantly more conservative than a 50 ppmv reading in ambient air at a distance of 3 inches from the soil surface. However, several factors affect the level of VOCs volatilizing from soils. These include the VOC concentration in the soil, soil and air temperature, organic carbon content of the soil, equilibration time, moisture content of the soil, and the chemical and physical characteristics of the VOCs.

11.4 Potential Impact Identification

11.4.1 Areas where field indications of possible Surficial Media OU contamination exist will be considered "potential impacts." These may include areas exhibiting visual indications of a possible impact, olfactory indications of a possible impact, or headspace PID readings greater than 50 ppmv.

11.4.2 Potential surficial media impacts will be assigned a unique identification number, and will be evaluated as part of the RFI process.

11.4.2.1. These areas will be fully documented (including photographs).

11.4.2.2. When additional characterization samples are to be taken or these soils are to be removed for purposes of offsite disposal, DTSC will be notified action is taken..

11.5 Data to be Recorded

11.5.1 Samples will be tracked electronically and will be shipped under site chain-of-custody procedures.

11.5.2 Field documentation will capture the following:

a) Field data such as visual field observations, subsurface geologic conditions, PID readings, electronic chain-of-custody sheets, and impact types

b) Object-specific identification numbers (soil impacts and stockpiles)

c) Area and sample location vertical and horizontal control

d) Field access to relevant site figures as ArcView shape files

e) Field access to RFI soil chemical data

f) Field access to relevant RBSL tables and other risk assessment information

11.6 Ongoing Monitoring

During demolition, there will be on-going monitoring for evidence of previously unobserved hazards and any issues that may impact waste characterization. On-going monitoring may include:

a) Boeing Demolition Coordinator oversight while wastes are being generated.

b) Geologist/engineer visual and instrumentation assisted monitoring (especially Photoionization Detector / Flame Ionization Detector vapor monitoring) during removal of floors, foundations or paved storage areas.

c) Monitoring by equipment operators who have been alerted during daily safety meetings about conditions to watch for.

11.6.1 Should any individual observe a potential issue, the Boeing Demolition Coordinator will be notified immediately and appropriate actions will be taken.

11.7. During demolition, any individual observing a potential issue, will immediately notify the Boeing Demolition Coordinator and appropriate actions will be taken. This may

involve segregating concrete or debris with significant odors or staining. If warranted, work will be stopped completely and the situation evaluated by the demolition team.

11.8 If significant soil contamination is identified and is indicative of a release, then the demolition operations will be moved to other locations and DTSC will be notified of the finding in writing (either via email or written letter) within 24 hours. Resumption of demolition in the suspected release location shall occur only with DTSC concurrence.

12.0. Potentially Hazardous Material

12.1. In compliance with Boeing procedures, whenever there is the possibility of wastes being hazardous, they will be placed in covered containers immediately upon identification.

12.2. Containers of potentially hazardous wastes will be labeled and managed as hazardous waste until verification that the wastes are non-hazardous.

13.0. Waste Disposition Documentation

13.1. All hazardous wastes will be transported off-site for disposal using Uniform Hazardous Waste Manifests.

13.2. Bills of Lading and/or Non-Hazardous Waste Manifests are used to document shipment of non-hazardous wastes offsite for disposal.

13.3. Recycled material disposition is documented through the weigh tickets used to transport the material to the recycler.

13.4. Uniform Hazardous Waste Manifests, Bills of Lading, Non-Hazardous Waste Manifests and recycled material weigh tickets will be maintained by Boeing SSFL as documentation of waste disposition and disposal. Hazardous Waste Manifests and other documents pertaining to hazardous wastes will be kept as required for at least 3 years following issuance. These documents are available upon DTSC request.

14.0. Demolition Procedures

14.1. Commingling of wastes will be reduced by avoiding disturbance of underlying soil any more than is necessary to remove the demolition project related material.

14.1.1. Building structures are removed initially throughout a target demolition site to avoid potential interaction with the subsurface soil. Foundations are removed last.

14.1.2. Care is taken to pick up large concrete pieces and to pick out smaller materials by raking the area. Containerizing soil is avoided to the degree possible.

14.2. The demo team will attempt to avoid demolition activity in potentially impacted areas identified following the pre-demolition evaluation of impacts observed during the RFI Report Sampling.

14.3. Plans will be made to segregate materials, such as stained concrete, for subsequent investigation. Results of the investigation will be used to determine whether the material should be transported to an appropriate offsite disposal facility rather than being recycled.

14.4. If contaminated soil removal for offsite disposal is necessary as the result of site stabilization or worker safety concerns, DTSC will be consulted prior to removal.

Appendix A

Radiation Screening Procedures for Non-radiological Buildings, Equipment and Debris

The following procedures shall be used for pre-demolition radiation screening of non-radiological buildings, equipment and debris. A trained health physics (HP) technician shall conduct these procedures.

1.0. Building surfaces, equipment and/or debris (metal, concrete, asphalt, other) shall be screened using the following techniques:

a) Gamma radiation exposure rate shall be measured using a portable Ludlum NaI gamma detector or a Bicron microrem meter.

b) Total beta-gamma surface contamination levels shall be measured using a portable Ludlum G-M meter (or equivalent).

c) Removable alpha and beta surface contamination levels shall be taken using wipes and measured on a low-background Tennelec alpha/beta counter (or equivalent).

2.0. Release criteria for surface contamination of building structures, material, equipment and debris shall be those specified in USNRC Regulatory Guide 1.86, USDOE Order 5400.5 Chapter IV, USDOE G 441.1-XX, and California Radiologic Health Branch guidance DECON-1 and IPM-88-2. Minimum detectable activities of instruments and wipes shall be less than these regulatory limits.

3.0. All measurements shall be recorded on a Boeing Radiation Survey Form 732-A, including results, instrument model and serial number, instrument calibration dates, instrument efficiencies, backgrounds, and minimum detectable activities. Tennelec alpha/beta counter output shall be attached to the Form 732-A. Photos and maps shall show the locations of measurements.